Fall 2010

CEG 724-01: Computer Vision I

Arthur A. Goshtasby
Wright State University - Main Campus, arthur.goshtasby@wright.edu

CEG-724 Computer Vision I

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CRN: 81038 **Lecture:** 4:10-5:25 PM, T, R **Location:** RC 155
Instructor: A. Goshtasby **Office Location:** 495 Joshi **E-mail:** *agoshtas@wright.edu*
Phone: 937-775-5170 **Office Hours:** 2:00 – 4:00 PM, T, 12:00 - 1:00 PM, M,W or by appointment.

No. Units: 4

Textbook:

Computer Vision: Algorithms and Applications
Richard Szeliski
Springer 2010 (Download an electronic version of the book, free, from http://szeliski.org/Book/)

Purpose of Course:

This course covers basic algorithms for low-level and mid-level vision. The algorithms deal with edge detection and image segmentation, feature detection and matching, image registration, and image stitching. Also covered in the course are computer vision applications to computer graphics, such as computational photography and image-based rendering.

Contents: The following topics will be covered.

1. Introduction
2. Feature detection and matching
3. Feature-based alignment
4. Image stitching
5. Image segmentation
6. Computational photography
7. Image-based rendering

Learning Goals:

Students will learn algorithms that extract various information from images, analyze the information, and describe the contents of images. Some of the algorithms will be implemented as class projects.

Projects and Exams:

There will be three projects and three quizzes. Each project will implement an algorithm discussed in class. Programs will be accepted in C/C++ and MATLAB.

Grading Policy:

The projects will worth 50 points and the quizzes will worth 50 point. The following grades are guaranteed A: 90..100, B: 80..89, C:70..79, D: 60..69, E: 0..59.

Calendar:

Project 1	Assigned 9/21	Due: 10/5, 4:00 PM
Project 2	Assigned: 10/5	Due: 10/19, 4:00 PM
Project 3	Assigned: 10/19	Due: 11/9, 4:00 PM

Quizzes will be on 9/23, 10/14, and 11/4.